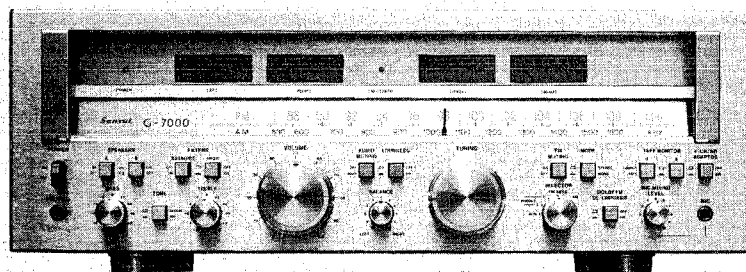


SERVICE MANUAL

PURE POWER DC STEREO RECEIVER

SANSUI G-6000 G-7000/701



SPECIFICATIONS

Audio section

«G-6000»

Power output

Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.03 % total harmonic distortion.

65 watts per channel into 8 ohms

Load impedance 8 ohms

Total harmonic distortion

. less than 0.03 % at or below rated min. RMS power output

Intermodulation distortion (70 Hz : 7 kHz = 4:1 SMPTE method) less than 0.03 % at rated power output

«G-7000/701»

Power output

Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.038 % total harmonic distortion.

85 watts per channel into 8 ohms

85 watts per channel into 4 ohms

Load impedance 4 and 8 ohms

Total harmonic distortion

. less than 0.038 % at or below rated min. RMS power output

Intermodulation distortion (7 kHz : 7 kHz = 4:1 SMPTE method) less than 0.038 % at rated power output

«G-6000/7000/701»

Frequency response (at 1 watt)

Overall (from AUX) . . . 5 to 50,000 Hz, +0.2 dB, -2.0 dB

RIAA curve deviation (PHONO, 20 Hz to 20 kHz)

. +0.2 dB, -0.2 dB

Damping factor (1 kHz, both channels driven)

. 30 into 8 ohms

Input sensitivity and impedance (at 1 kHz)

PHONO-1, 2 2.5 mV/47 kilohms

(Max. input capability: 220 mV at 1 kHz, less than 0.038 % total harmonic distortion.)

MIC 6 mV/10 kilohms

TAPE-1, 2 PLAY, AUX

. 150 mV/47 kilohms

Output level (at 1 kHz)

TAPE-1, 2 REC (pin jacks)

. 150 mV

TAPE-2 REC/PLAY (DIN socket)

. 43 mV

Hum and noise (short-circuit, A-network)

PHONO-1, 2 78 dB

TAPE-1, 2 PLAY, AUX

. 95 dB

Channel separation (at 1 kHz)

PHONO-1, 2 60 dB

TAPE-1, 2 PLAY, AUX

. 65 dB

Controls

BASS ± 10 dB at 50 Hz

TREBLE ± 10 dB at 10 kHz

SUBSONIC FILTER . . . -3 dB at 16 Hz (6 dB/oct)

HIGH FILTER -3 dB at 3 kHz (6 dB/oct)

LOUDNESS (VOLUME control: -30 dB position)

. 8 dB at 50 Hz

. 6 dB at 10 kHz

AUDIO MUTING . . . -20 dB



SANSUI ELECTRIC CO., LTD.

SPECIFICATIONS

FM section

«G-6000/7000/701»

Tuning range 88 to 108 MHz

Usable sensitivity

Mono IHF 10.3 dBf (1.8 μ V)

DIN 1.0 μ V

Stereo IHF 17 dBf

50 dB quieting sensitivity

Mono 14 dBf

Stereo 36 dBf

Signal to noise ratio (at 65 dBf)

Mono 72 dB

Stereo 68 dB

Distortion (at 65 dBf)

Mono less than 0.15 % at 100 Hz

less than 0.13 % at 1,000 Hz

less than 0.25 % at 6,000 Hz

Stereo less than 0.25 % at 100 Hz

less than 0.18 % at 1,000 Hz

less than 0.25 % at 6,000 Hz

Alternate channel selectivity (at 400 kHz)

. 75 dB

Capture ratio 1.0 dB

Image response ratio 70 dB

Spurious response ratio 90 dB

IF response ratio 95 dB

Stereo separation 35 dB at 100 Hz

42 dB at 1,000 Hz

30 dB at 10,000 Hz

25 dB from 30 to 15,000 Hz

Frequency response 30 to 15,000 Hz

+0.2 dB, -1.0 dB

Antenna input impedance

. 300 ohms balanced

75 ohms unbalanced

AM section

«G-6000/7000/701»

Tuning range 530 to 1,600 kHz

Usable sensitivity (bar antenna)

. 50 dB/m (300 μ V/m)

Selectivity (± 10 kHz) 35 dB

Signal to noise ratio 46 dB

Distortion (at 30 % Modulation, 80 dB/m)

. less than 0.5 %

Other Parts

«G-6000»

Power requirements

Power voltage 100, 120, 220, 240 V

(50/60 Hz)

For U.S.A. and Canada

. 120 V (60 Hz)

Power consumption

Rated consumption 310 watts 380 VA

Dimensions 505 mm (19-15/16") W

187 mm (7-7/16") H

409 mm (16-1/8") D

Weight 17.5 kg (38.6 lbs) net

19.7 kg (43.4 lbs) packed

«G-7000/701»

Power requirements

Power voltage 100, 120, 220, 240 V

(50/60 Hz)

For U.S.A. and Canada

. 120 V (60 Hz)

Power consumption

Rated consumption 380 watts 470 VA

Dimensions 505 mm (19-15/16") W

187 mm (7-7/16") H

422 mm (16-5/8") D

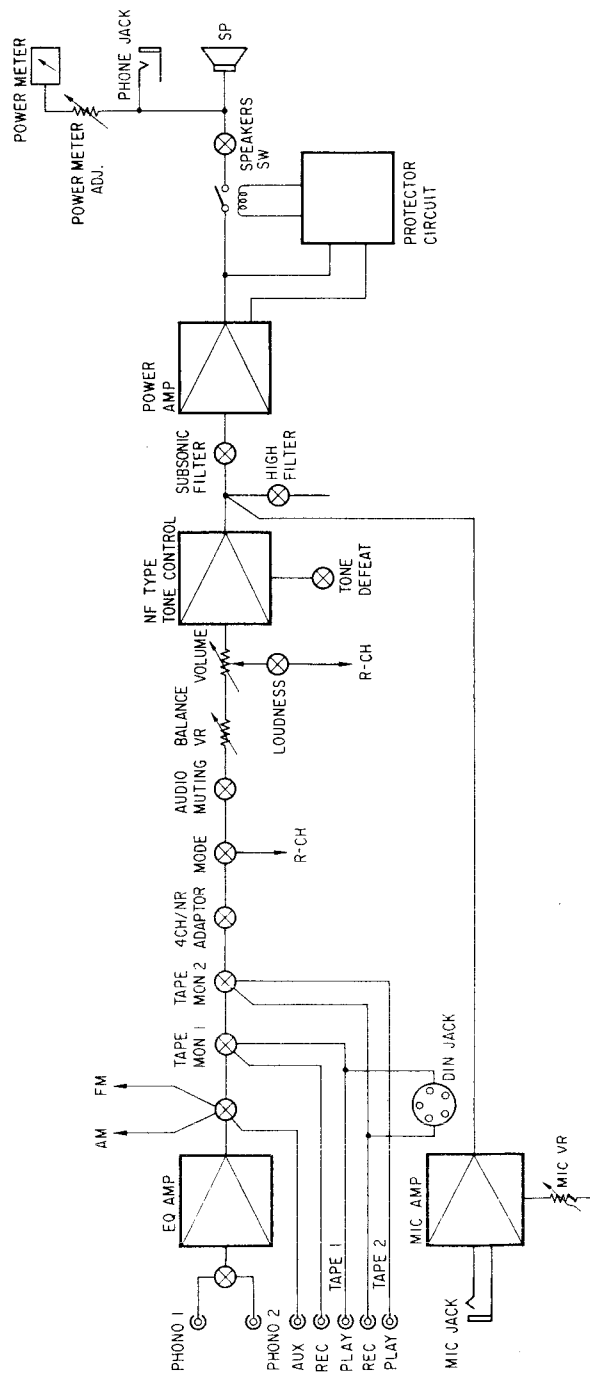
Weight 16.6 kg (36.6 lbs) net

18.8 kg (41.4 lbs) packed

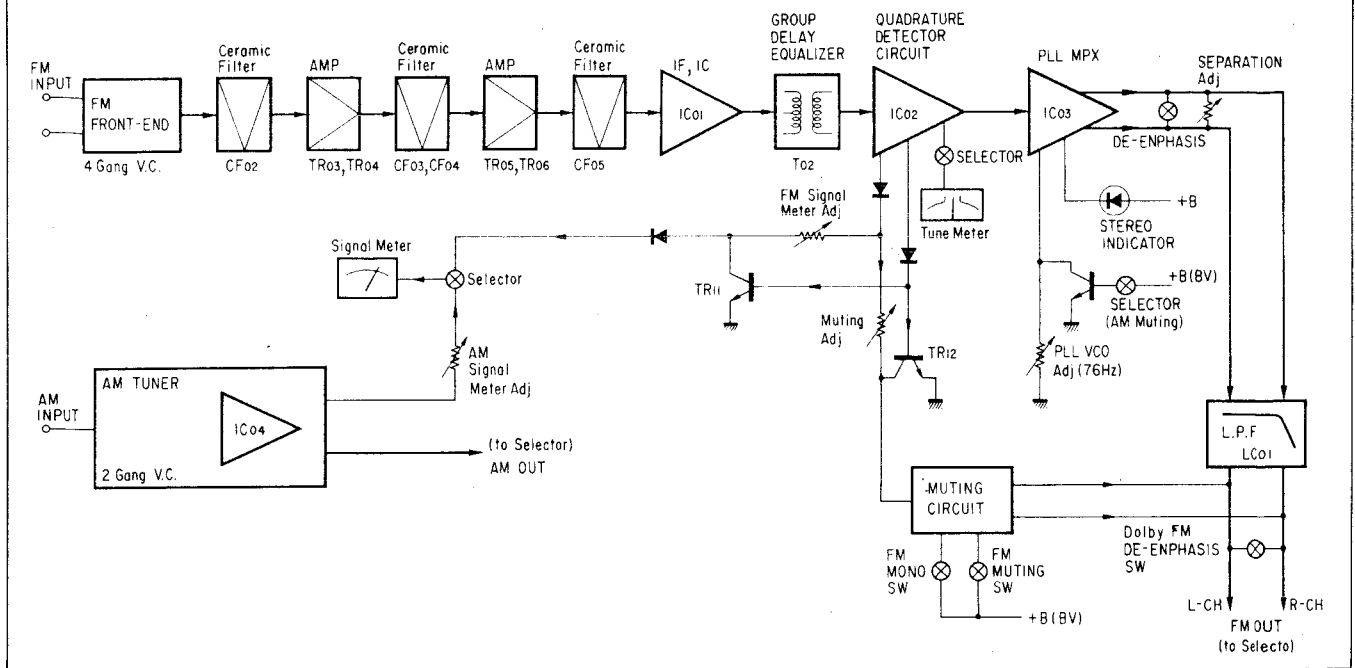
* Design and specifications subject to change without notice for improvements.

1. BLOCK DIAGRAM & OPERATION OF AUDIO SECTION

BLOCK DIAGRAM of Audio Section



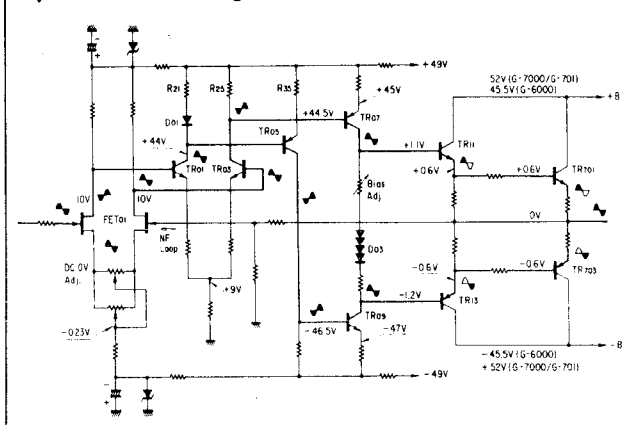
BLOCK DIAGRAM of Tuner Section



• Dolby is a trademark of Dolby Laboratories, Inc.

Operation of Audio Section

Operation Block Diagram of Power Circuit



1. Power Amplifier Characteristics and its Operations (Refer to Operation Block Diagram of Power Circuit)

(1) SEPP circuit of D.C. amplifier configuration

Sufficient gain and low distortion factor can be obtained by using a dual FET (FET 01) differential amplifier in the first stage and by applying these two outputs to the next differential amplifier consisting of TR₀₁ and TR₀₃.

Two output signals of TR₀₁ and TR₀₃ are 180 deg. out-of-phase each other, and the output of TR₀₃ is applied to TR₀₇ in phase. On the other hand, the output of TR₀₁ is applied to TR₀₉ after the phase is reversed through TR₀₅.

The outputs of TR₀₇ and TR₀₉, being of the same phase and the same amplitude, make a push-pull drive.

In the final current amplifier stage, the output configuration is a dual darlington-type complementary symmetry SEPP circuit.

(2) FET characteristics of the first-stage differential amplifier

Two FETs, the characteristics of which are completely the same, are used in the first-stage differential amplifier.

FETs have many special characteristics; that is, no gate-current flowing is required and thereby an input capacitor is unnecessary, temperature drift suppression is possible due to no temperature dependance when used under a prescribed drain current conditions because of having a cross temperature point (temperature coefficient), by this a time constant capacitor in a NF loop circuit is unnecessary, and the noise occurrence is also little.

(3) Current mirror circuits

The operation from the second differential amplifier circuit of TR₀₁ and TR₀₃ to the pre-drive stage of TR₀₇ and TR₀₉ is described in detail below.

TR₀₅ is used in order to connect the 180 deg. out-of-phase output signals of the differential amplifier circuit of TR₀₁ and TR₀₃ to the next push-pull amplifier in the same phase. That is, TR₀₅, the amplification factor of which is one and only the phase of which is reversed, is inserted in order to connect the 180 deg. out-of-phase outputs from TR₀₁ and TR₀₃ to the base inputs of TR₀₇ and TR₀₉ in the same phase and the same level. By this, all the currents flowing through TR₀₁, TR₀₃, and TR₀₅ become the same, thereby being to be connected to the inputs of TR₀₇, and TR₀₉ in the same level and the same conditions.

This circuit is usually called "Current Mirror" because all the currents flowing through TR₀₁, TR₀₃, and TR₀₅ are the same, however, there are many kinds of current mirror circuits and the way to use this circuit here is different from AU-607, BA-2000, CA-2000, etc.

2. Differential Amplifier Circuits and Constant Current Circuits

Differential amplifier circuits are used for all the first-stage of equalizer tone-control and power-amplifier circuits in G-6000/G-7000/G-701. Also, in the equalizer and tone-control circuits, differential amplifier circuits are used in the first-stage by combining with constant current circuits.

(1) Differential amplifier circuit characteristics and its operations

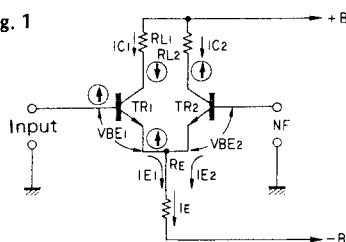
(A) Operations

First, when both the inputs of TR_1 and TR_2 are zero in Fig. 1, the state is as follows:

$$IE = IE_1 + IE_2, \quad IE_1 = IE_2$$

Next, when an input signal is applied from only the TR_1 side, the state is changed into that as shown by the movements ① of electric potential. That is, the TR_1 base potential rising ① makes the IE_1 increase, and the TR_1 emitter voltage also increases due to the emitter resistance RE .

Fig. 1



Then the TR_2 emitter voltage also increases since both the emitters of TR_1 and TR_2 are connected directly. This makes the V_{BE2} level of TR_2 low, thereby operating in the direction to reduce IC_2 and IE_2 . As a result of this, IE_1 increases and IE_2 decreases at the same proportion, the equation being expressed in the following.

$$IE = IE_1 + IE_2 \dots \dots \text{constant}$$

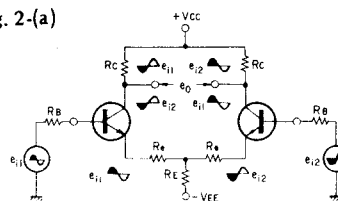
(the same as the case of no-signal)

(B) Characteristics

- When considering SEPP power amplifier as an example and controlling the D.C. potential fluctuation at the median point, if a differential amplifier circuit is used at the first-stage and a D.C. NFB is provided, the controlling efficiency is excellent, being able to make the fluctuation almost zero. This indicates that two operating-point deviations compensate each other in the differential amplifier and the operating point stability is excellent.
- Cancelling effect for the disturbance applied in the form of the same phase input.
(temperature and power supply voltage fluctuations, noise, etc.)
 - It is possible to make the drift null because temperature compensation is easy to perform.
 - The allowable value of common mode voltage (CMV), which is able to apply to the input, is great. (Refer to Fig. 2b)
 - The same phase noise removal is possible because no output appears in the case where the same phase inputs are applied to two inputs. (common mode rejection ratio CMRR is large)
 - Power supply rejection ratio (PSRR) is large.

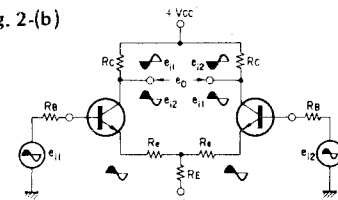
(C) Operation comparison among the reverse phase inputs, the same phase inputs, and the unbalanced inputs in differential amplifier circuit.

Fig. 2-(a)



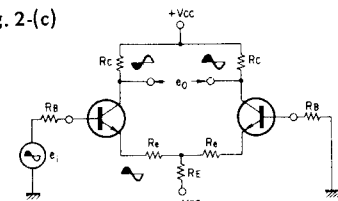
(a) The case where two input signals are in the reverse phase each other.

Fig. 2-(b)



(b) The case where two input signals are in the same phase.

Fig. 2-(c)



(c) The case where only one input signal is applied to a input.

- The case where two input signals are in the reverse phase each other. (Fig. 2a)

A large gain can be obtained because of no negative feed back action, and a large operating point stability is also obtained because a large RE is possible to use.

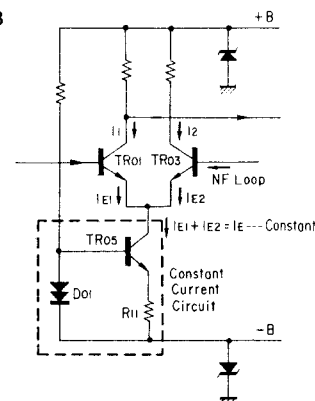
Further, the two transistor emitter currents cancel each other, thereby the current flowing through RE being made into a constant current, and the fluctuations of IE and IC is suppressed.

- The case where two input signals are in the same phase. (Fig. 2b)

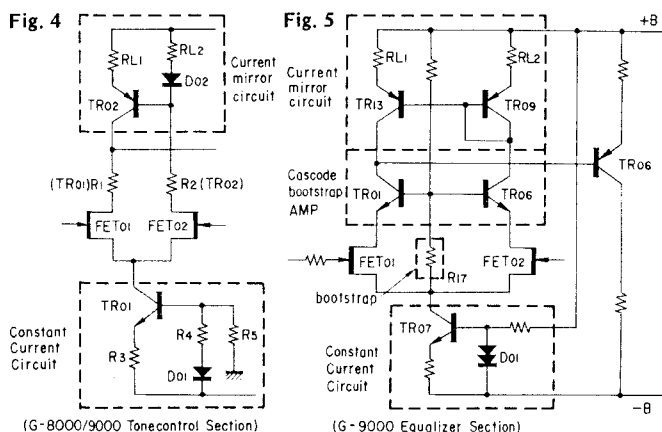
A great negative feedback action is obtained, and ascend with increasing RE . When this circuit is used actually, the input signal e_{12} is generally NFB signal.

(2) Constant current circuit function added to differential amplifier circuits

Fig. 3



(G-6000/7000 Tonecontrol Section)



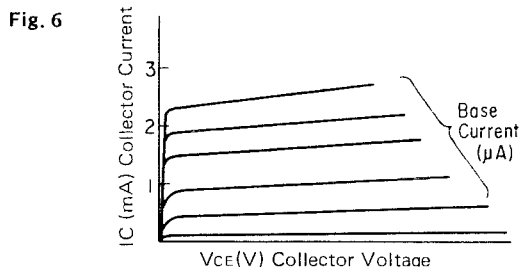
In order to make large the common mode rejection ratio (CMRR), which is a superior characteristic in a differential amplifier circuit, to use an equal pair of transistors and a large emitter resistance R_E are required.

However, when considering the practical use of power supply voltage $| -V_{EE} |$, R_E having its limit, it is desirable to insert a constant current circuit into the emitter side of the differential amplifier circuit in order to make the CMRR large.

Circuits used for G-6000/7000/8000/9000 are shown in Fig. 3, Fig. 4, and Fig. 5 above.

(A) Constant current circuit operation

When considering Fig. 3 as an example, even if TR_{05} collector current (emitter current I_E of the differential amplifier circuit) changes, the collector current hardly changes in the TR_{05} saturated domain. (Fig. 6) By making use of this characteristic, it is possible to flow a constant current through the collector irrespective of the collector voltage fluctuation, and this also means that a considerable high internal resistance is connected equivalently to the emitter of the differential amplifier circuit. Further, a diode D_{01} serves to make the TR_{05} bias voltage constant, and at the same time to make the TR_{05} temperature compensation.



3. Applied Circuits to G-Series Model No. except G-6000/7000/701

Fig. 4 shows the combined circuit of differential amplifier, current mirror, and constant current used for tone control circuit of G-8000/9000.

The applied circuits used for an equalizer circuit of G-9000, is shown in Fig. 5.

The basic operations of the circuits in Fig. 4 and Fig. 5 are almost the same; that is, D_{02} is equivalent to TR_{09} in the current mirror stage, and R_1 and R_2 in Fig. 4 are equivalent to TR_{01} and TR_{06} connected in cascode in Fig. 5.

(1) Characteristics

When used for a small signal amplifier circuit, it is possible to improve S/N, low distortion factor, high gain, and D.C. current stability, which are necessary for a small signal amplifier circuit.

In other words, it is possible to improve potential-fluctuation removal-ratio and the common mode rejection-ratio (CMRR), which are the characteristics of the circuit with a constant current circuit, and also possible to obtain a high gain and a high output impedance due to current mirror, in addition to low distortion factor by the push-pull function with current mirror.

By these, it is possible to provide a strong NP in order to improve the distortion factor.

(2) Function of TR_{01} and TR_{06} connected in cascode

In Fig. 5, the operation of differential amplifier circuit using FETs with a constant current circuit is the same as in Fig. 3. Further, being bootstrapped by R_{17} , this circuit of Fig. 5 contains TR_{01} and TR_{06} connected in common bases and a current mirror circuit consisting of TR_{13} and TR_{09} .

When considering FET characteristics of high input impedance which allows the preceding portion load effect to be negligible, it is possible to make the signal source impedance high and the noise low. Consequently, the power source (+B, and -B) is determined to be high in order to increase the resistance between gate and earth, and the output. However, on account of this high source voltage, when an almost maximum voltage is applied to between drain and source of the FET, a gate leak-current flows, and the differential amplifier circuit becomes unstable, resulting in the fact that the median electric potential is not controlled to null at the output side.

In order to prevent this, it is necessary to make the FET electric potential between drain and gate sufficiently low, thus resistors or TR_{13} and TR_{09} being inserted into a portion between the current mirror circuit and the differential amplifier circuit in order to make a voltage drop.

The circuit, when TR_{01} and TR_{06} are added in common base as shown in Fig. 5, is called a cascode bootstrap amplifier, and has not only the characteristics to make low the voltage between drain and source of FET but also the following characteristics.

- (A) To prevent the mirror effect and improve the high frequency characteristics.
- (B) To make less the distortion resulting from the voltage dependance of reverse capacitance C_{rss} .
- (C) To improve the linearity.

(3) Cascode bootstrap amplifier operation

Fig. 7 being the same circuit as Fig. 5, in order to understand a cascode bootstrap amplifier better, only the simplified portion is shown in Fig. 8.

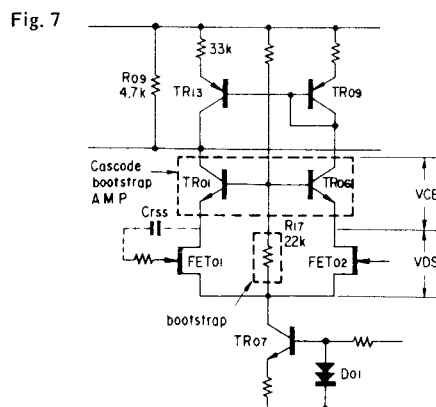


Fig. 8

As shown in Fig. 8, the load of Q_1 is the input impedance of Q_2 , then to determine Q_2 input impedance is required in order to determine Q_1 gain A_1 . As the Q_2 input impedance Z_{ib} is given by the following equation, Q_1 gain A_1 is obtained as follows:

$$Z_{ib} = \frac{h_{ie}}{1 + h_{fe}} \quad \text{then, } A_1 = g_m \cdot Z_{ib} = g_m \cdot \frac{h_{ie}}{1 + h_{fe}}$$

Also, the gain A_2 of common-base amplifier circuit is given by the equation below.

$$A_2 = \frac{1 + h_{fe}}{h_{ie}} \cdot R_L$$

Consequently, the gain A_0 of cascode amplifier is as follows:

$$A_0 = A_1 \cdot A_2 = g_m \cdot \frac{h_{ie}}{1 + h_{fe}} \cdot \frac{1 + h_{fe}}{h_{ie}} \cdot R_L = g_m \cdot R_L$$

where h_{ie} is a TR_{01} common-emitter input impedance, h_{fe} is a TR_{01} common-emitter forward current transfer ratio, and g_m is a TR_{01} mutual conductance.

By using the calculating equations in the left, when calculating the actual circuit of Fig. 7, the following values can be obtained.

$g_m = 12 \text{ (mS)}, R_L = 4.7 \text{ k}\Omega (R_{09}),$
and $A_0 = 12 \times 10^{-3} \times 4.7 \times 10^3 = 56.4 \dots 35 \text{ (dB)}$

This gain is a total gain of FET_{01} and TR_{01} , however, R_{09} connected in parallel with the current mirror circuit is actually a load resistance of TR_{01} , and not a load of the current mirror circuit without any gain.

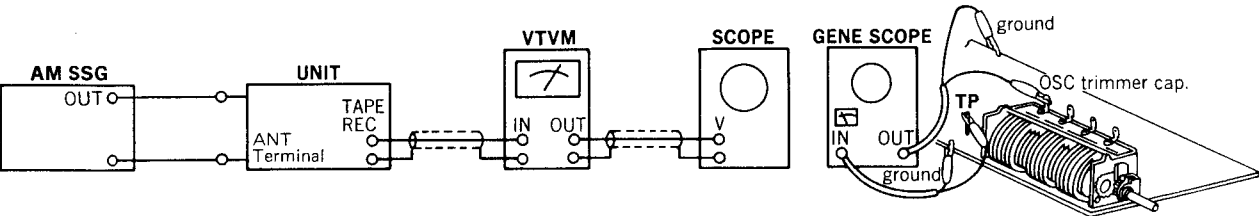
Consequently, the total circuit gain of Fig. 7 is approximately 35 dB.

Then the purpose of the current mirror circuit is to improve power supply utilization coefficient, to make a differential output into a single output, and also to reduce the distortion by letting the circuit make a push-pull operation.

2. ADJUSTMENTS

1. AM IF, RF Adjustment & Dial Calibration (See Fig. 2-1 on page 7)

- Note: 1. Selector AM
2. Confirm start point of dial pointer before alignment.

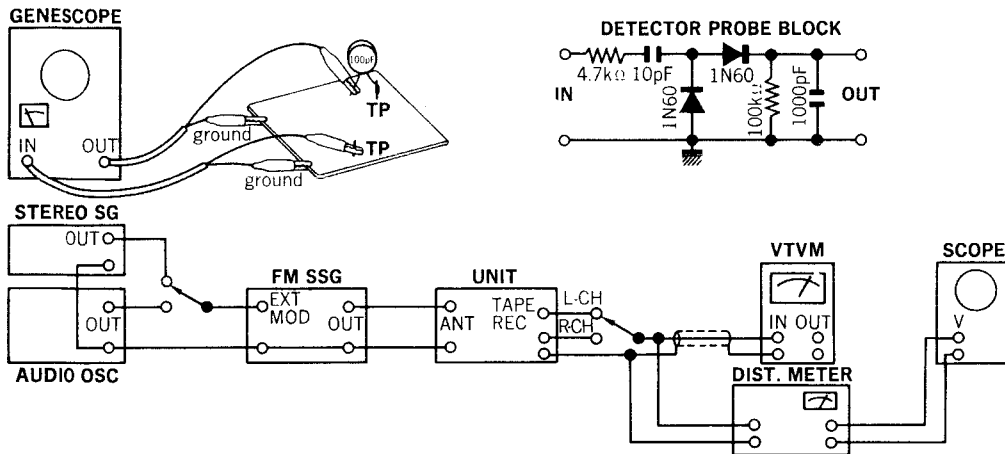


STEP	SUBJECT	FEED SIGNAL		MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARKS
		FROM	TO				
1.	IF Coil	Genescope Output 45 dB	VT01b F-2614	TP6 F-2614	T06, T07 F-2614	Max. IF waveform	
2.	600 kHz Dial Calibration	600 kHz ANT Input 60 dB 400 Hz (MOD 30%) AM SSG	AM ANT terminal	REC OUT L or R-CH VTVM & Scope	L13 F-2614	Max. Output	
	1400 kHz Dial Calibration	1400 kHz ANT Input 60 dB 400 Hz (MOD 30%) AM SSG	Same as above	Same as above	VT01d F-2614	Same as above	
3.	600 kHz RF Adj.	600 kHz ANT Input 60 dB 400 Hz (MOD 30%) AM SSG	Same as above	Same as above	L702 Bar Antenna	Same as above	
	1400 kHz RF Adj.	1400 kHz ANT Input 60 dB 400 Hz (MOD 30%) AM SSG	Same as above	Same as above	VT01b F-2614	Same as above	
4.	Signal Meter volume	1000 kHz ANT Input 76 dB 400 Hz (MOD 30%) AM SSG	Same as above	Signal Meter	VR05 F-2614	4.3 on meter	

2. FM Adjustment (See Fig. 2-1 on page 7)

Note: 1. Selector FM AUTO
2. FM Muting Switch OFF

3. Connect the output of genescope to TP through 100 pF ceramic capacitor.



(1) FM IF, RF Adjustment & Dial Calibration

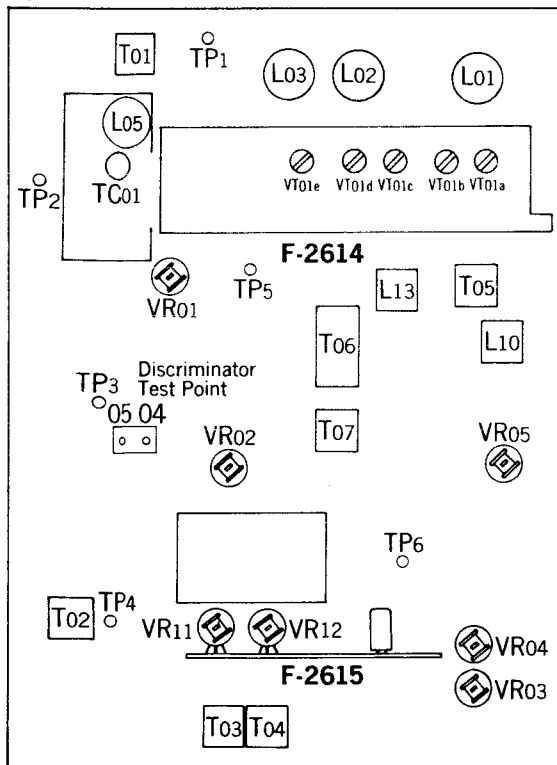
STEP	SUBJECT	FEED SIGNAL		MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARKS
		FROM	TO				
1.	IF Coil	Output 90 dB Genescope	TP1 F-2614	TP3 F-2614 Use Detector Probe	T01 F-2614	Max. IF waveform	
		Output 80 dB Genescope	Same as above	TP4 F-2614 Use Detector Probe	T02 F-2614	Same as above	
2.	Discriminator Coil	Output 50 dB Genescope	Same as above	TM04 (Pin Ass'y) F-2614	T03	Center indication on tune meter	
					T04	Max. linearity of S curve	
3.	90 MHz Dial Calibration	90 MHz ANT Input 40 dBf (34.8 dB) 1 kHz (100% MOD) FM SSG	ANT terminal 300Ω	REC OUT L or R-CH VTVM & Scope	L05 F-2614	Max. Output	
	106 MHz Dial Calibration	106 MHz ANT Input 40 dBf (34.8 dB) 1 kHz (100% MOD) FM SSG	Same as above	Same as above	TC01 F-2614	Same as above	
4.	90 MHz RF Adj.	90 MHz ANT Input 30 dBf (24.8 dB) 1 kHz (100% MOD) FM SSG	Same as above	Same as above	L01, L02, L03 F-2614	Same as above	
	106 MHz RF Adj.	106 MHz ANT Input 30 dBf (24.8 dB) 1 kHz (100% MOD) FM SSG	Same as above	Same as above	VT01a, VT01c, VT01e F-2614	Same as above	
5.	Signal Meter Volume	98 MHz ANT Input 105 dBf (99.8 dB) 1 kHz (100% MOD) FM SSG	Same as above	Signal Meter	VR11 F-2615	4.7 on Meter	

(2) FM STEREO Adjustment

STEP	SUBJECT	FEED SIGNAL		MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARKS
		FROM	TO				
1.	PLL VCO Adj.	98 MHz ANT Input 65 dBf (59.8 dB) FM SSG Pilot 19 kHz (9% MOD) SUB 1 kHz + Pilot (100% MOD) STEREO SG	ANT terminal 300Ω	Stereo indicator	VR01 F-2614	Light indicator	Adjust the VR within center of lighting level.
	PLL VCO Adj. In case of using Freq. counter.	98 MHz ANT Input 65 dBf (59.8 dB) FM SSG (no MOD)	Same as above	TP5 F-2614 Use Freq. counter	VR01 F-2614	76 kHz ±200 Hz	For this adjustment, run the unit more than 30 seconds.
2.	Separation	98 MHz ANT Input 65 dBf (59.8 dB) FM SSG Pilot 19 kHz (9% MOD) R Mode 1 kHz + Pilot (100% MOD) STEREO SG	ANT terminal 300Ω	REC OUT L-CH VTVM & Scope	VR02 F-2614	Min. Output -40 dB	Confirm separation L-CH → R-CH -40 dB
3.	Muting level & indicator level	98 MHz ANT Input 23 dBf (17.8 dB) FM SSG Pilot 19 kHz (9% MOD) SUB 1 kHz + Pilot (100% MOD) STEREO SG	Same as above	Stereo indicator	VR12 F-2615	Muting level 23 dBf (17.8 dB) Indicator lighting level 23 dBf (17.8 dB)	

• Adjusting or Connecting Points on AM, FM & FM MPX circuit board, F-2614 & F-2615

Fig. 2-1



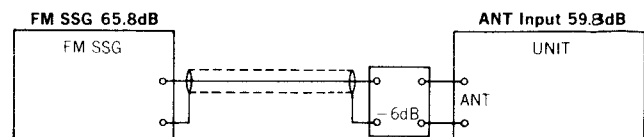
• NEW MEASUREMENT FOR FM.

Input signal level under the provision of IHFM-T-200, a new measurement method is indicated by available power ratio "dBf". To obtain approximate available power ratio "dBf", abstract 0.8 from attenuator indication of general FMSG (open load indication type); however, the former measurement, IHFM-T-100 is designated together too.

The way of modulation on IHFM-T-200 is shown below.

	modulation frequency	modulation mode	modulation factor
FM MONO	1000 Hz		100%
FM STEREO	1000 Hz	SUB	Pilot 9% Pilot + SUB 100%

- The relation between the standard input 65 dBf of IHFM-T-200 and the former indication "dB" is shown below.



3. Audio Section

(1) Driver Circuit Board Adjustments (See Fig. 2-2)

Note: 1. Master Volume Minimum

2. For adjustment, run the unit for more than 3 minutes after the power is switched on.

STEP	SUBJECT	EQUIPMENT	MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARKS
1.	DC 0V L-CH	DC Volt Meter	Speaker Terminal	VR01, VR03 F-2856	DC 0V ± 5 mV	- Set VR01 and VR03 to center position. (VR03, VR04) - Then, for the purpose of proceeding the accurate adjustment, set the voltage to 0 volt by VR01 (VR02) first and VR03 (VR04) next.
2.	DC 0V R-CH	Same as above	Same as above	VR02, VR04 F-2856	DC 0V ± 5 mV	
3.	Bias Current L-CH	Same as above	TP Terminal (+) (-) Fig. 2-2	VR05 F-2856	DC 4.5mV ± 1 mV	By turning VR05 (VR06), counterclockwise, the bias current is decreased gradually.
4.	Bias Current R-CH	Same as above	TP Terminal (+) (-) Fig. 2-2	VR06 F-2856	DC 4.5mV ± 1 mV	

(2) Power Meter Adjustments (See Fig. 2-3)

Note: 1. Master Volume Maximum

2. For this adjustment, run the unit for more than 2 minutes after turning on the power switch.

AUDIO OSCILLATOR		OUTPUT TERMINAL	ADJUST	ADJUST FOR
OUTPUT	CONNECTING POINT			
At 1 kHz Sine wave, set the amplifier-output to 20V on both channels by adjusting Audio Osc.-output level	Input terminal of Amplifier	Speaker terminal 8 Ω VTVM Scope	VR01 (L-CH) VR02 (R-CH) on F-2860	Set the point of power meter to 50W on both channels

Fig. 2-2

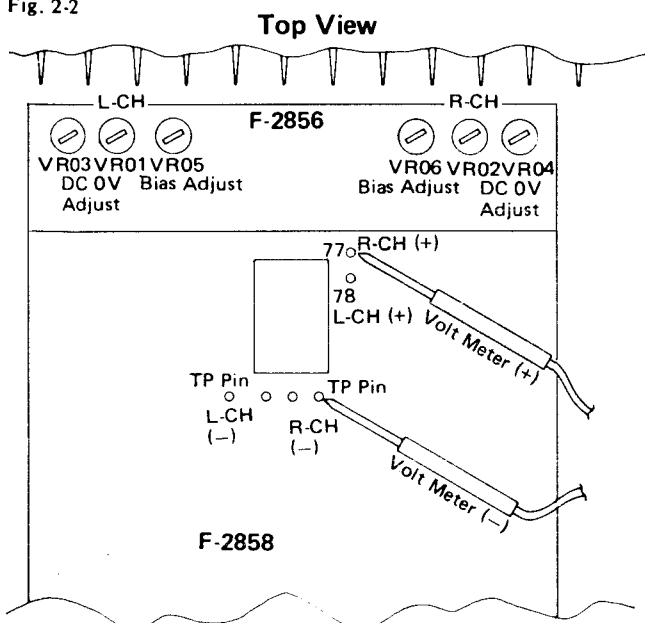
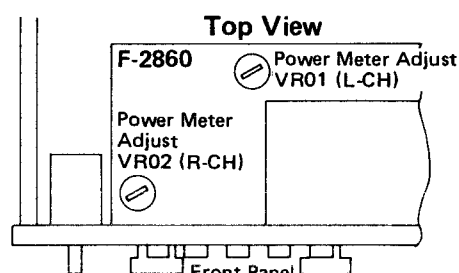


Fig. 2-3



●Abbreviations

Equipment

AM FM Generator Oscilloscope	Genescope
AM Standard Signal Generator	AM SSG
FM Standard Signal Generator	FM SSG
FM Stereo Generator	Stereo SG
Oscilloscope	Scope
Audio Oscillator	Audio Osc.

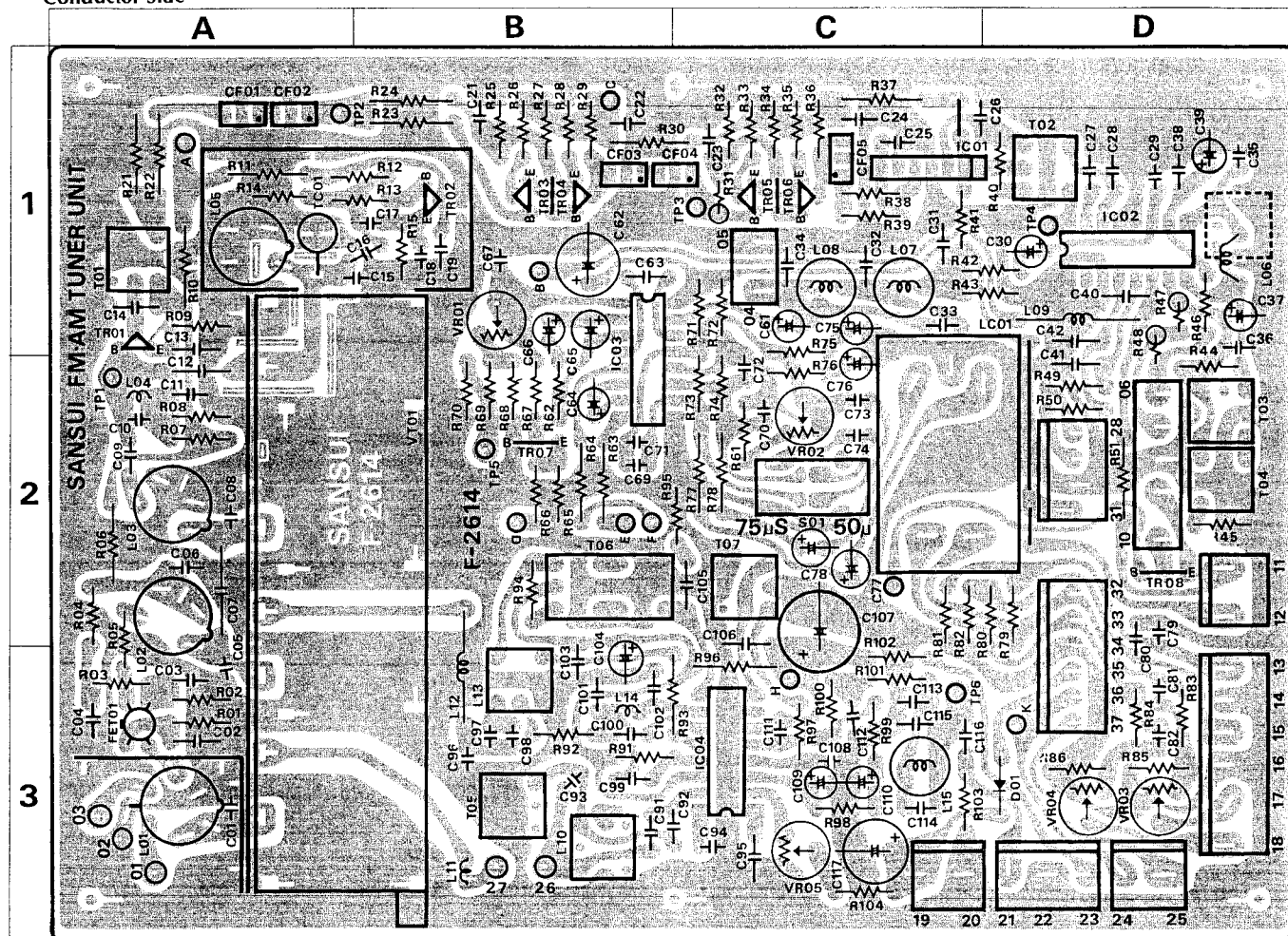
Others

Antenna	ANT.
Modulation	MOD.
Total Harmonic Distortion	T.H.D.

3. PARTS LOCATION & PARTS LIST

1. F-2614 RF Circuit Board (Stock No. 7521741●G-6000) (Stock No. 7521721●G-7000/G-701)

Conductor Side



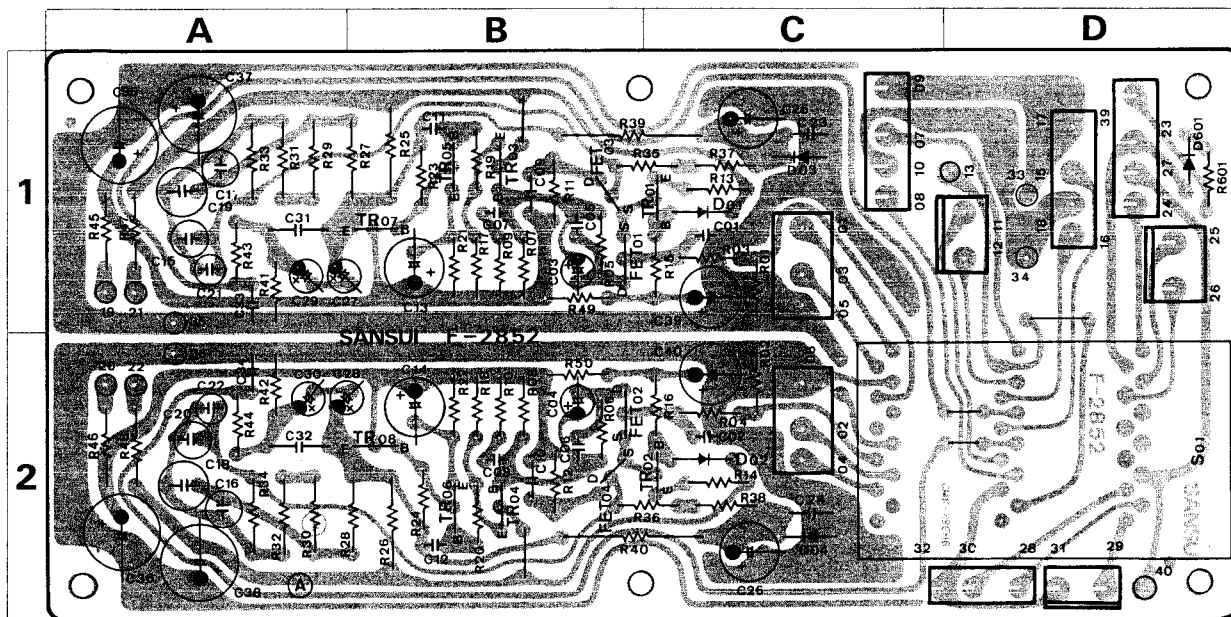
Parts List

Parts No.	Stock No.	Description	Position	Parts No.	Stock No.	Description	Position	Parts No.	Stock No.	Description	Position
TR01	0305801, 2	2SC1047 B, C	1A	C 65	0573159	1.5 µF 35V T.C.	1B	T 03	4235990, 1	FM IFT 10.7 MHz	
TR02	0305801, 2	2SC1047 B, C	1B	C 67	0629005	360PF 50V	2C	T 04	4236000, 1	IF Coil 10.7 MHz	2D
TR03	0306341, 2	2SC1674 L, K	1B	C 73	0620561	560PF 50V	2C	T 05	4236062	IF Coil 455 kHz	3B
TR04	0306341, 2	2SC1674 L, K	1B	C 74	0620561	560PF 50V	3B	T 06	0910280	Ceramic Filter 455 kHz	2B
TR05	0306341, 2	2SC1674 L, K	1C	C 93	0620562	5600PF 50V	3B	T 07	4236062	IF Coil 455 kHz	2C
TR06	0306341, 2	2SC1674 L, K	1C	C 96	0669400	15PF 50V	3B	CF 02	0910420		1A
TR07	0305731, 2	2SC711 E, F	2B	C 97	0669400	15PF 50V	3B	CF 03	0910420	Ceramic Filter 10.7 MHz	1B, C
	0305951, 2	2SC945 Q, R		C 98	0620361	360PF 50V P.C.	2B	CF 05	0910420		1C
IC 01	0360120	µPC555H	1C	R 63	0200471	470Ω ½W N.I.R.	3A	LC 01	0910360	Low Pass Filter	2C
IC 02	0360350	HA1137W	1B	L 01	4200720	Antenna Coil	2, 3A	VR01	1034250	4.7 kΩ B PLL VCO Adjust Volume	1B
IC 03	0360320	HA1196	1, 2B	L 02	4210340	RF Coil	2A	VR02	1035190	100 kΩ B MPX Separation Volume	2C
IC 04	0360390	HA1197	3C	L 03	4210340	RF Coil	2A	VR05	1035110	4.7 kΩ B AM Signal Meter Adjust Volume	3C
FT 01	0370121, 2	3SK41 L, M FET	3A	L 04	4900140	1 µH Inductor	1A	S 01	1110270	DE-Emphasis Switch	
D 02	{ 0311160 0311180	{ 1S2473D 1S1588	{ Diode	L 05	4220400	OSC Coil	1D	VT01	1220260	AM-FM Variable Capacitor	2B
C 01	0669325	15PF 50V	3A	L 06	4290300	Inductor	1C	TC 01	1230090	Trimmer Capacitor	1A
C 05	0669325	15PF 50V	2A	L 07	4900250	8.2 µH Inductor	1C		2410570	5P Pin Ass'y Type D	
C 08	0669325	15PF 50V	2A	L 08	4900240	6.8 µH Inductor	1D		2410850	4P Pin Ass'y Type B	
C 09	0669210	10PF 50V	2A	L 09	4290011	Choke Coil	3B		2410860	6P Pin Ass'y Type B	
C 12	0679008	1.0PF 500V Gimmic Capacitor	1A, B	L 10	4290250	Choke Coil	2, 3B		2410950	6P Pin Ass'y Type E	
C 15	0669330	20PF 50V	1A, B	L 11	4900100	3.3 µH Inductor	3B				
C 16	0669295	10PF 50V	1B	L 12	4290011	Choke Coil					
C 17	0669295	10PF 50V	1B	L 13	4220650	OSC Coil					
C 18	0669295	10PF 50V	1D	L 14	4900110	100 µH Inductor					
C 29	0661330	33PF 50V	1B	L 16	4900100	3.3 µH Inductor					
				T 01	4235930	10.7 MHz IF Coil	1A				
				T 02	4235930	10.7 MHz IF Coil	2D				

Since some of capacitors and resistors are omitted from parts lists in this Service Manual, refer to the Common Parts List for capacitors & resistors which was appended previously to each Sansui Manual.

4. F-2852 Equalizer Circuit Board (Stock No. 00000000●G-6000)
(Stock No. 00000000●G-7000/701)

Conductor Side

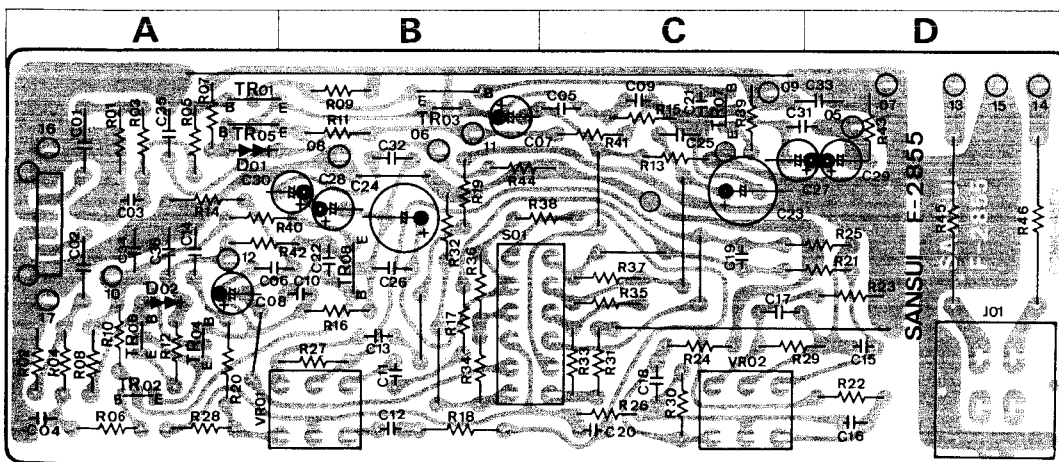


Parts List

Parts No.	Stock No.	Description	Position	Parts No.	Stock No.	Description	Position	Parts No.	Stock No.	Description	Position
TR01,02	0306550, 1	2SC1775 E, F	1C, 2C					R 27, 28	0231561	560Ω $\frac{1}{2}$ W Me. R.	1B, 2B
TR03,04	0300770, 1	2SA896-1-1, 2	1B, 2B	D 03, 04	0311160	1S2473D	1C, 2C	R 29, 30	0231153	560Ω $\frac{1}{2}$ W Mr. R.	1A, 2A
	0300930, 1	2SA896-1-1, 2			0311180	1S1588		R 31, 32	0231304	300 kΩ $\frac{1}{2}$ W Me. R.	1A, 2A
TR05,06	0300890, 1	2SA750 (3) E, U	1B, 2B	D 601	0311160	1S2473D	1D	R 33, 34	0231273	27 kΩ $\frac{1}{2}$ W Me. R.	1A, 2A
	0300930, 1	2SA872 D, E			0311180	1S1588		R 45, 46	0191101	100Ω $\frac{1}{2}$ W F.R.	1A, 2A
TR07,08	0308350, 1	2SC1811-1-1, 2	1B, 2B	C 01, 02	0620101	100PF 50V	1C, 2C	R 47, 48	0191101	100Ω $\frac{1}{2}$ W F.R.	1A, 2A
	0308520 ~ 2	2SD438 D, E, F		C 07, 08	0620101	100PF 50V	1B, 2B				
FT 01, 02	0370302, 3	2SK-117 GR, BL	1B, 2B	C 17, 18	0625103	10000PF 50V	P.C., 1A, 2A	S 601	1103590	Selector Switch	2D
FT 03,04	0370302, 3	2SK-117 GR, BL	1B, 2B	C 19, 20	0625272	10000PF 50V	1A, 2A		2410590	4P Pin Ass'y Type D	
				C 21, 22	0620151	2700PF 50V	1A, 2A		2410910	2P Pin Ass'y Type E	
D 01, 02	0340150	MV-12 Varistor	1C, 2C						2410920	3P Pin Ass'y Type E	
				R 25, 26	0201392	3.9Ω 1W N.I.R.					

5. F-2855 Tone Control Circuit Board (Stock No. 7562161●G-6000)
(Stock No. 7562181●G-7000/G-701)

Conductor Side

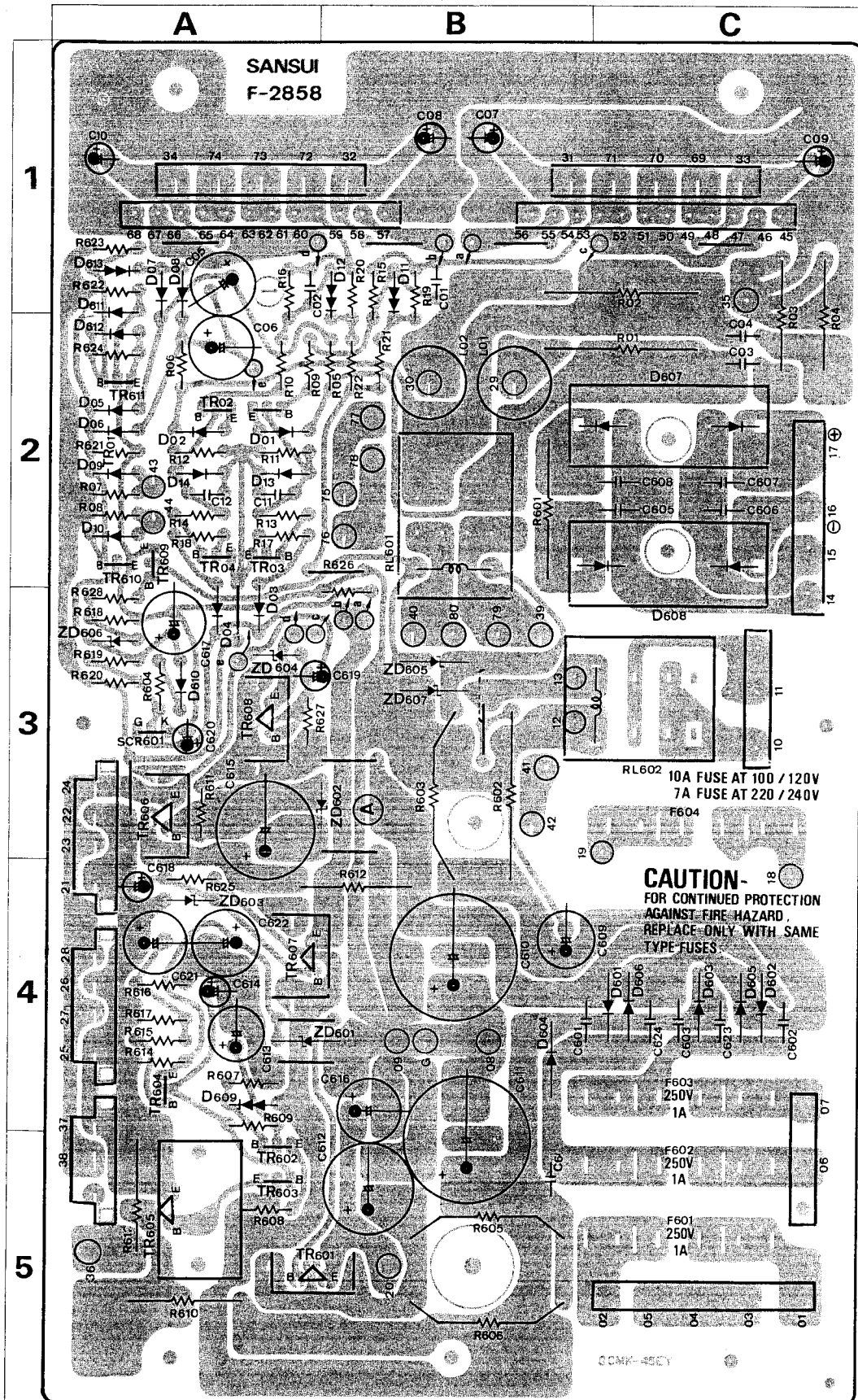


Parts List

Parts No.	Stock No.	Description	Position	Parts No.	Stock No.	Description	Position	Parts No.	Stock No.	Description	Position
TR01, 02	0306010, 1	2SC1222 (2) U, E	Transistor	D 01, 02	0340120	VD1212	Varistor	S 01	1131630, 1	Tone Defeat Switch	
TR03, 04	0306010, 1	2SC1222 (2) U, E			0340150	MV-12		J 01	2430400	Head Phone Jack	
TR05, 06	0306010, 1	2SC1222 (2) U, E									
TR07, 08	0300890, 1	2SA750 (3) E, U		VR01, 02	1015360, 1	100 kΩ x 2 C, Tone Control Volume					

9. F-2858 Power Supply Circuit Board (Stock No. 7502801●G-6000)
(Stock No. 7502811●G-7000/G-701)

Conductor Side



G-6000/G-7000
G-701

G-6000/G-7000
G-701

Parts List

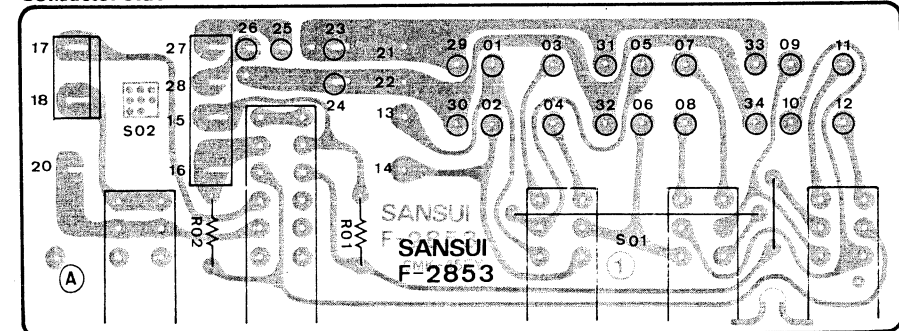
Parts No.	Stock No.	Description	Position	Parts No.	Stock No.	Description	Position
TR01,02	0306680,1	2SC2071B, V	2A	D 612	0311160	1S2473D	Diode
TR03,04	0300890,1	2SA750 (3) E, U	2A	D 613	0311180	1S1588	Diode
TR601	0308392,3	2SD313AL (E), (F)	5A	D 901	0340150	MV-12 Varistor	1A
TR602	0300721,2	2SA850 D, E	5A		0311160	1S2473D Diode	
TR603	0306371,2	2SC1175V10 E, F	5A				
TR604	0306290,1	2SC1400 (I) E, U	4A	ZD601	0315970	EQA01-13R	4A
TR605	0308392,3	2SD313AL (E), (F)	5A	ZD602	0316580	RD33E C	3B
TR606	0303231,2	2SB507V11-AL D, E	3A	ZD603	0316020	EQA01-18R	4A
TR607	0308392,3	2SD313AL (E), (F)	4A	ZD604	0316020	EQA01-18R	3A
TR608	0303231,2	2SB507V11-AL D, E	3A	ZD605	0316070	EQA01-24R	3B
TR609	0308521,2	2SD438 E, F	2A	ZD606	0316390	RD6.2E B	3A
TR610	0306290,1	2SC1400 (I) E, U	2A				
TR611	0306290,1	2SC1400 (I) E, U	2A	SR601	0350020	2SF656 SCR	3A
D 01,02	0311160	1S2473D	2A	C 601	0655472		4B
	0311180	1S1588		C 602	0655472		4C
D 03,04	0311160	1S2473D	3A	C 603	0655472		4C
	0311180	1S1588		C 604	0655472	4700PF 500V E.C.	5B
D 05,06	0311160	1S2473D	2A	C 605	0655472		2C
	0311180	1S1588		C 606	0655472		2C
D 07,08	0311160	1S2473D	1A	C 607	0655472		2C
	0311180	1S1588		C 608	0655472		2C
D 09,10	0311160	1S2473D	2A	C 610	0549207	1000 μ F 63V E.C.	4B
	0311180	1S1588		C 611	0549207	1000 μ F 63V E.C.	4B
D 11,12	0340150	MV-12 Varistor	1B	C 623	0655472	4700PF 500V C.C.	4C
D 13,14	0310400	1N34A	2A	C 624	0655472	4700PF 500V C.C.	4C
D 601	0310350	10D2	4C				
D 602	0310350	10D2	4C	R 01,02	0133109	1.0 Ω 3W Ce. R.	1C
D 603	0310350	10D2	4C	R 03,04	0202100	10 Ω 2W N.I.R.	1, 2C
D 604	0310350	10D2	4C	R 601	0202822	8.2 k Ω 2W N.I.R.	2B
D 605	0310350	10D2	4C	R 610	0212100	10 Ω 2W N.I.R.	5A
D 606	0310350	10D2	4C	R 612	0212100	10 Ω 2W N.I.R.	4B
D 610,11	0311160	1S2473D	3, 1A	R 613	0200152	1.5 k Ω 1/2W N.I.R.	5A
	0311180	1S1588					

10. F-2853 Tape Monitor Circuit Board

(Stock No. 7596131●G-6000)

(Stock No. 7596171●G-7000/G-701)

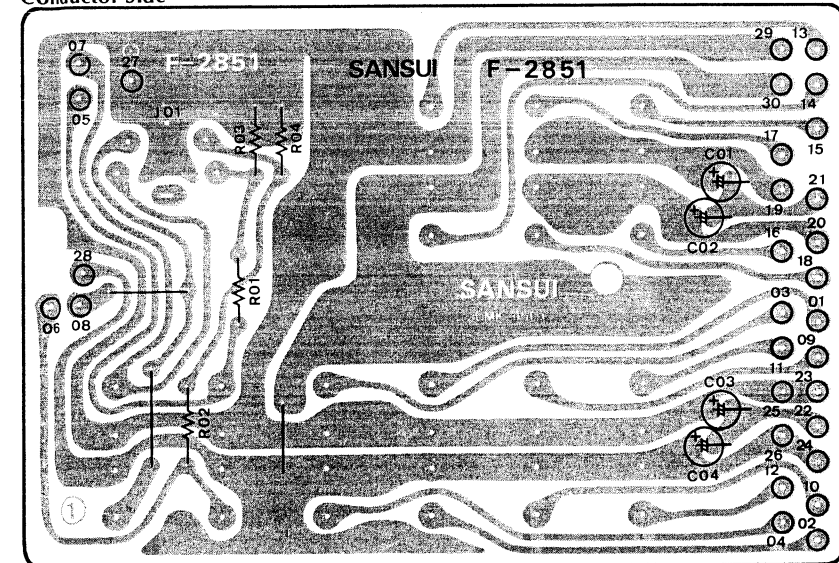
Conductor Side



- The circuit boards, F-2851, F-2854, F-2878, F-2862 & F-2879 are not supplied as the assembled, the individual parts on the circuit board, however, are provided for orders.

11. F-2851 Input Terminal Circuit Board

Conductor Side



Parts List

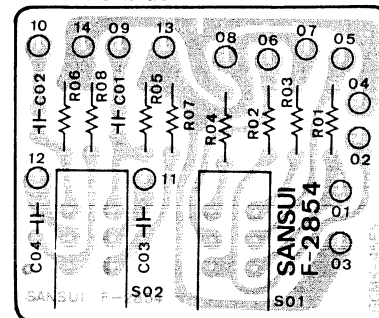
Parts No.	Stock No.	Description
S 01	1131610, 1	4CH Adaptor Switch
S 02	1131600, 1	MODE & FM Muting Switch
	2410590	4P Pin Ass'y Type D
	2410910	2P Pin Ass'y Type E

Parts List

Parts No.	Stock No.	Description
	2090030	5P Connector Socket
	2200490	12P Input Terminal
	2200530	6P Input Terminal

12. F-2854 Audio Muting Circuit Board

Conductor Side



Parts List

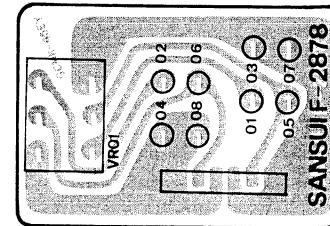
Parts No.	Stock No.	Description
L 01,02	4210290	1.5 μ H RF Coil
RL601	1150400	Relay Switch
F 601	0432240	2A 250V
F 602	0432220	1A 250V / AC Fuse
F 603	0432220	1A 250V
F 604	0432280	4A AC (220V)
	0432600	7A AC (120V)
	2410730	6P Pin Ass'y Type A
	2411400	3P Mini Connector
	2411410	4P Mini Connector

G-6000 Only Parts		
D 607	0311320	SS-5R Diode
D 608	0311310	SS-5 Diode
D 609	0340120	VD1212
	0340150	Varistor
R 603	0183681	680 Ω 3W Ce. R.
R 605	0185331	330 Ω 5W Ce. R.
R 606	0185471	470 Ω 5W Ce. R.

G-7000/701 Only Parts		
D 607	0311300	SS-3R Diode
D 608	0311290	SS-3 Diode
D 609	0340150	MV-12 Varistor
R 602	0183821	820 Ω 3W Ce. R.
R 603	0183821	820 Ω 3W Ce. R.
R 605	0185561	560 Ω 5W Ce. R.
R 606	0185471	470 Ω 5W Ce. R.

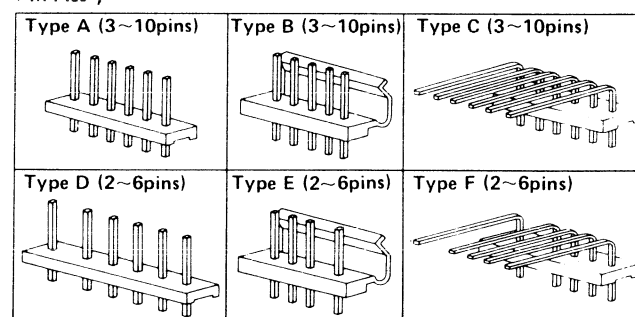
14. F-2878 Balance Volume Circuit Board

Conductor Side



Figures

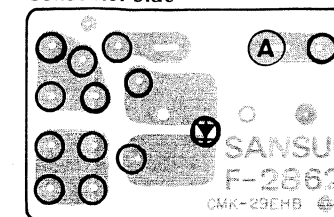
Pin Ass'y



NOTE: Since stock number of female connectors (type B) with wires are not shown in each parts list of Complete circuit board, please refer to the above parts list when ordering the connector.

13. F-2862 Indicator Circuit Board

Conductor Side



Parts List (Power Indicator Circuit)

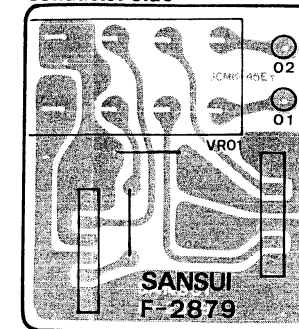
Parts No.	Stock No.	Description
LD601	0319050	SG2-13C (Green) LED

Parts List (FM Stereo Indicator Circuit)

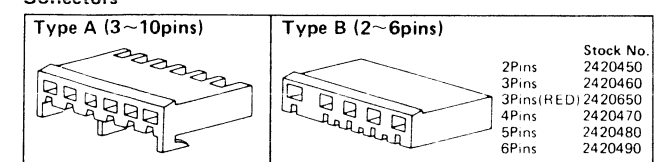
Parts No.	Stock No.	Description
LD01	0319060	SG2-12C (Red) LED

15. F-2879 Master Volume Circuit Board

Conductor Side



Connectors

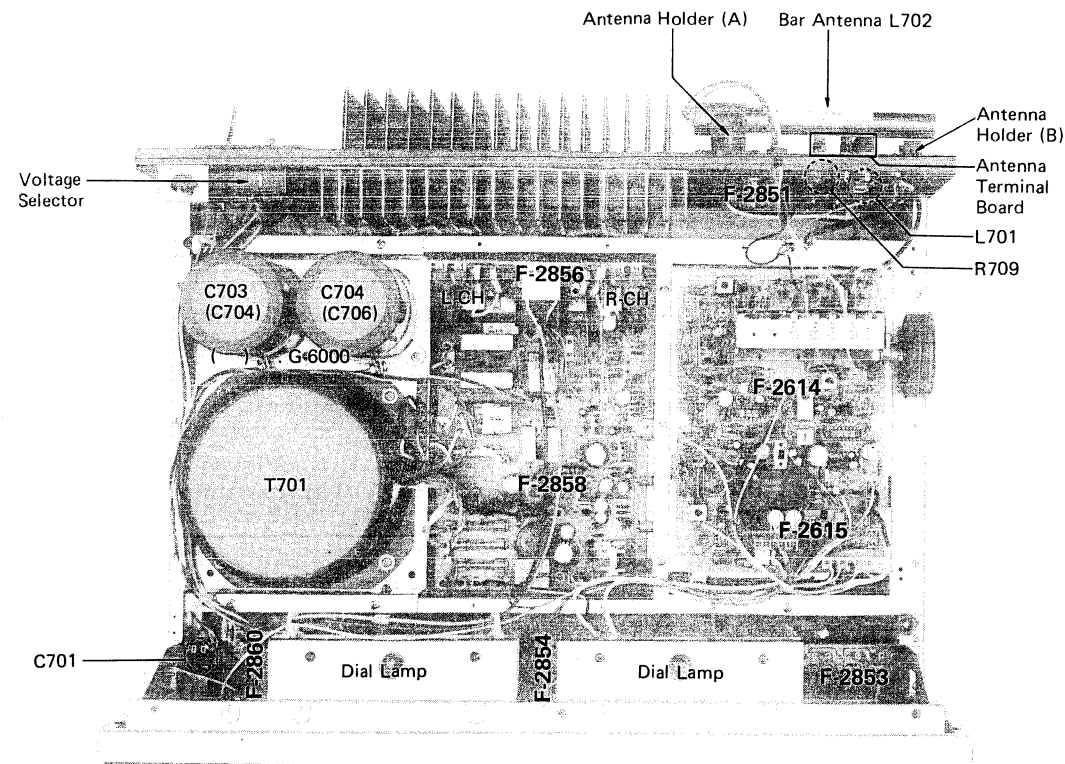


Abbreviations

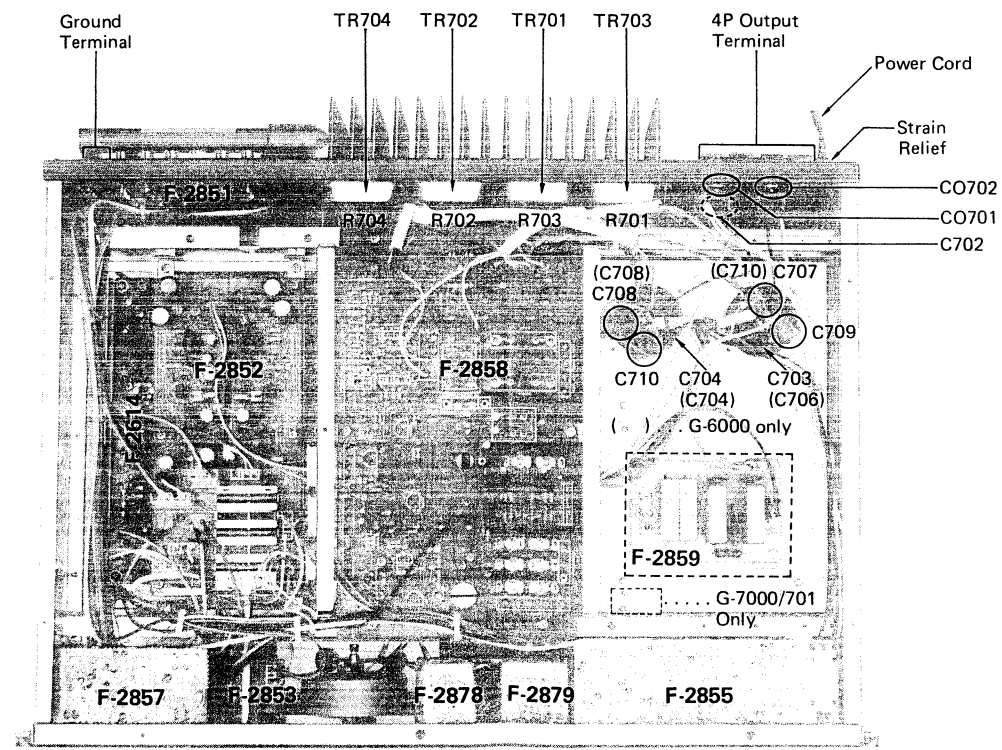
C.R. : Carbon Resistor	E.C. : Electrolytic Capacitor
S.R. : Solid Resistor	BP.E.C. : Bi-Polar Electrolytic Capacitor
Ce.R. : Cement Resistor	C.C. : Ceramic Capacitor
M.R. : Metal Film Resistor	Mi.C. : Mica Capacitor
F.R. : Fusing Resistor	O.C. : Oil Capacitor
N.I.R. : Non-Inflammable Resistor	P.C. : Polystyrene Capacitor
M.C. : Mylar Capacitor	E.C. : Tantalum Capacitor

4. OTHER PARTS

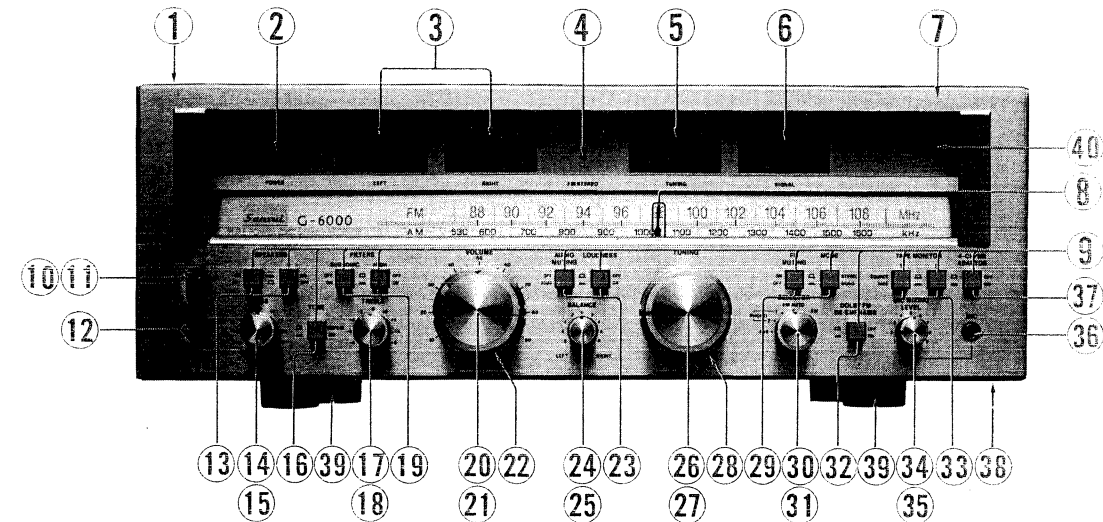
<Top View> <<G-7000>>



<Bottom View> <<G-7000>>



<Front View>

Front View <<G-6000/7000/701>>
Parts List

Parts No.	Stock No.	Description
1	5727091	Wood Bonnet
2	0319050	Power Indicator, LED (Green)
3	4301280, 1	Power Meter
4	0319060	FM STEREO Indication, LED (Red)
5	4301240	Tuning Meter
6	4301230	Signal Meter
7	7007830	Front Panel Ass'y <<G-6000/7000>>
	7007910	Front Panel Ass'y <<G-701>>
	5408300	Front Glass
	5048110	Masking Plate
	5393800	Knob Ring
	5280020	Front Panel Retainer
	5517270	Masking Packing
8	7116050	Dial Pointer Ass'y
9	5326690	Push Switch Knob
10	1171600	Power Switch

Parts No.	Stock No.	Description
11	5326700	Knob, power switch
12	2430400	Phones Jack
13	1131580, 1	Speaker Switch (A) (B)
14	1015360, 1	Bass Volume, 100 k Ω x 2 (C)
15	5319100	Knob, bass volume
16	1131630, 1	Tone Switch
17	1015360, 1	Treble Volume, 100 k Ω x 2 (C)
18	5319100	Knob, treble volume
19	1131560, 1	Subsonic & Filter Switch
20	1011160, 1	Volume, 150 k Ω x 2 (B)
21	5319180	Knob, volume
22	5296191	Volume Grille
23	1131560, 1	Audio Muting & Loudness Switch
24	1015320	Balance Volume, 250 k Ω x 2 MN
25	5319090	Knob, balance volume
26	7036570	Tuning Unit Ass'y

Parts No.	Stock No.	Description
27	5319170	Knob, tuning unit ass'y
28	5296191	Grille, tuning unit ass'y
29	1131600, 1	FM Muting & Mode Switch
30	1103590	Selector
31	5319100	Knob, selector
32	1131620, 1	Dolby FM De-emphasis Switch
33	1131610, 1	Tape Monitor Switch (1), (2)
34	1090270, 1	MIC Mixing Volume
35	5319090	Knob, mic mixing volume
36	2430400	Mic Jack
37	1131610, 1	4-CH/NR Adaptor Switch
38	5058850	Bottom Plate
39	5517050	Leg
40	5408320	Dial Glass <<G-7000>>
	5408450	Dial Glass <<G-701>>
	5408330	Dial Glass <<G-6000>>

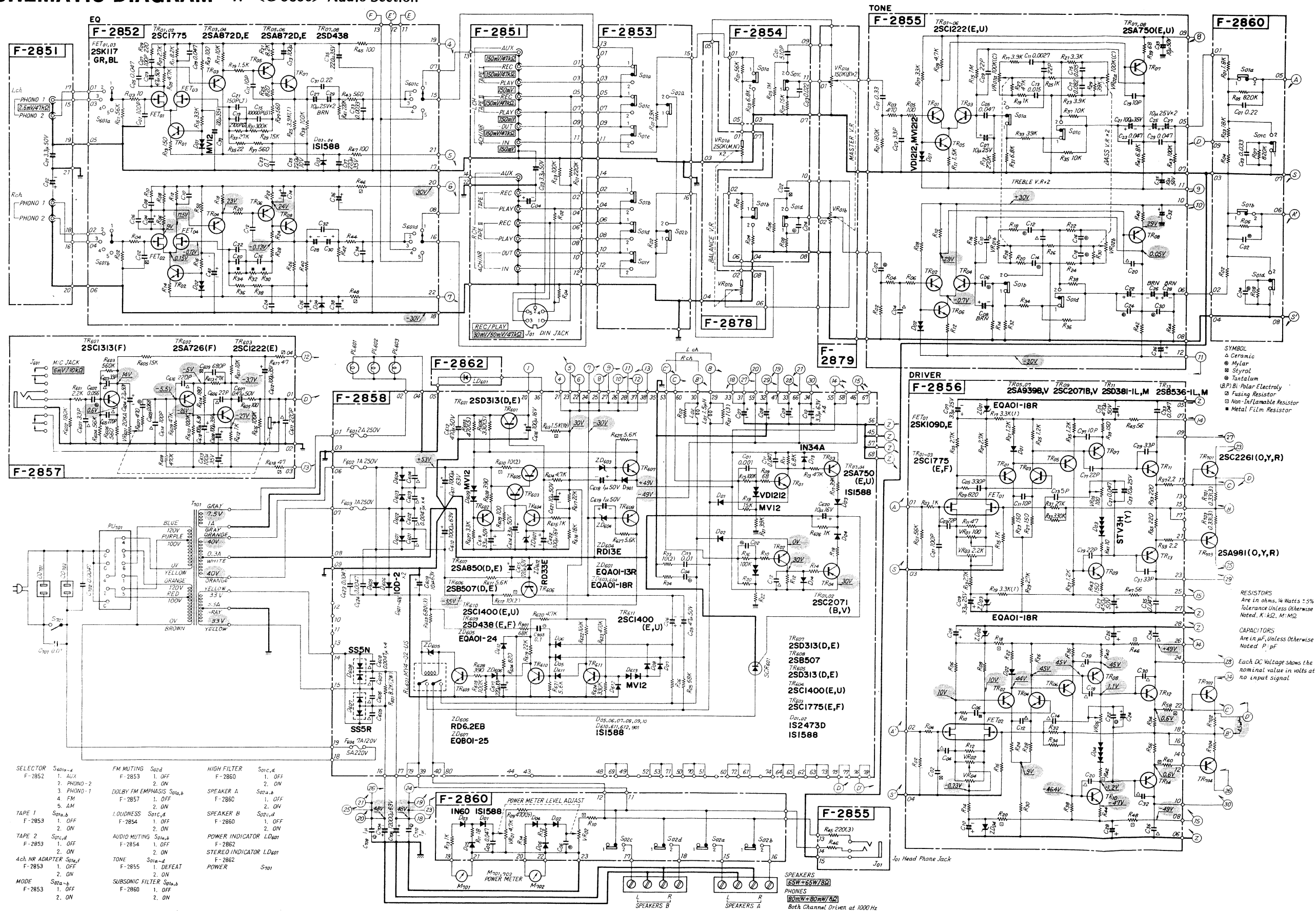
Top & Bottom View <<G-6000/7000/701>>
Parts List

Parts No.	Stock No.	Description
TR 701, 702	0306301	2SD551 R, D
	0306570 ~ 2	2SC2261 R, O, Y
TR 703, 704	0304501	2SB681 R, O
	0300950 ~ 2	2SA981 R, O, Y
C 701	0605337	0.033 μ F 250V M.C.
C 702	0659802	0.0047 μ F 150V C.C.
C 703, 704	0559521	12000 μ F x 2 63V E.C.
		<<G-7000/701>>
C 704, 706	0559518	12000 μ F 63V E.C.
		<<G-6000>>
C 708, 710	0602109	1 μ F 100V M.C. <<G-6000>>
C 707, 708	0602109	1 μ F 100V M.C. <<G-7000/701>>
C 709, 710	0602109	1 μ F 100V M.C. <<G-7000/701>>

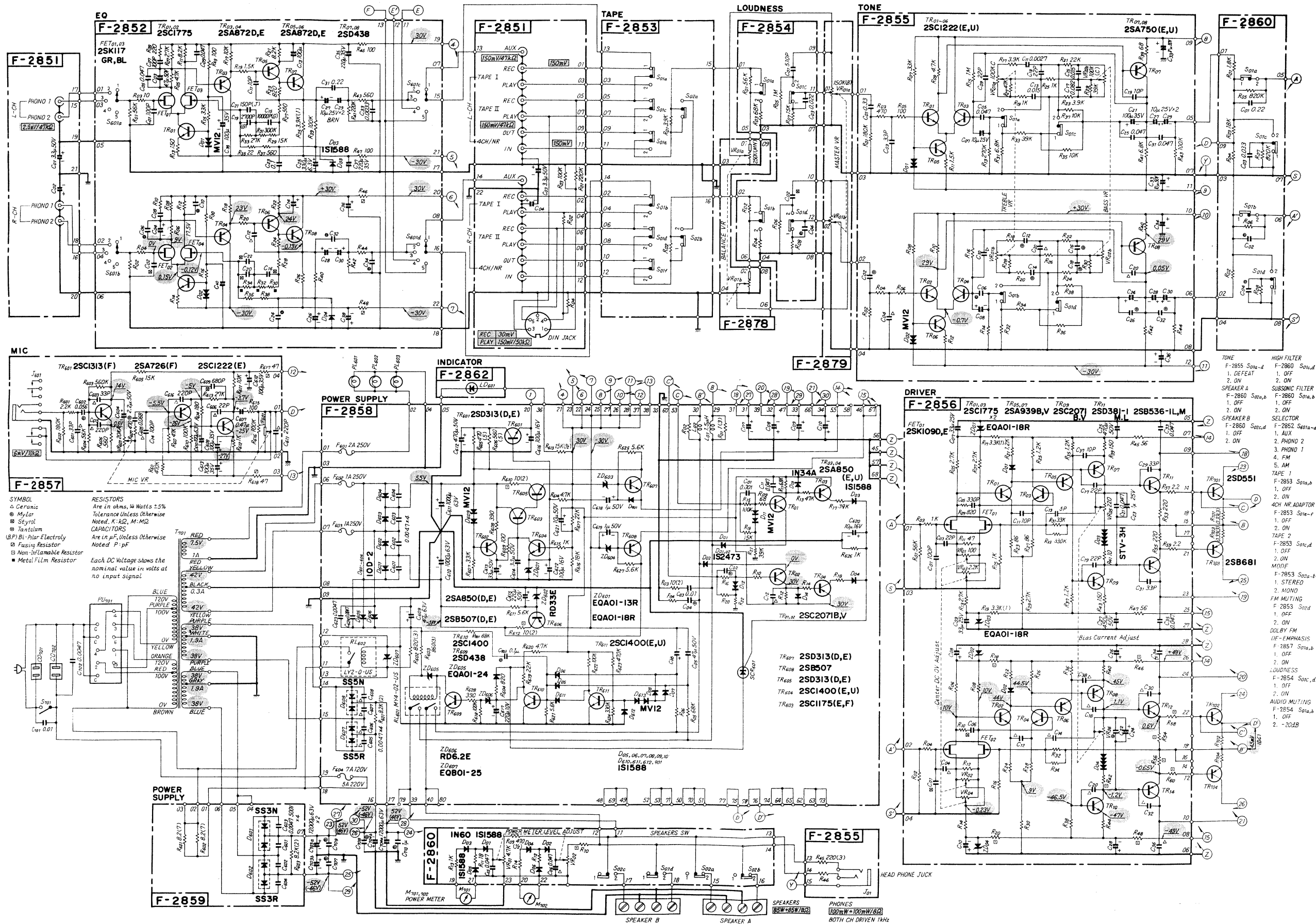
Parts No.	Stock No.	Description
R 701, 702	0155338	0.33 Ω 5W C.e.R.
R 703, 704	0155338	0.33 Ω 5W C.e.R.
R 709	0103122	1.2 k Ω 1/2W C.R.
L 701	4290021	Antenna Transformer
L 702	4200830, 1	Bar Antenna
T 701	4002770	Power Transformer <<G-6000>>
	4002760	Power Transformer <<G-7000/701>>
PL 701, 702	0400560	Dial Lamp, RV 0.3A
	2410830	Voltage Selector Socket

Parts No.	Stock No.	Description
	2410091	Voltage Selector Plug
	5286450	Antenna Holder (1) (A)
	5286480	Antenna Holder (2) (B)
	2210310	Antenna Terminal Board
	2230190	Ground Terminal
CO701	2450060	AC Connect
CO702	2450060	AC Connect
	2290190	4P Output Terminal
	3800010	Power Cord
	3910490	Strain Relief

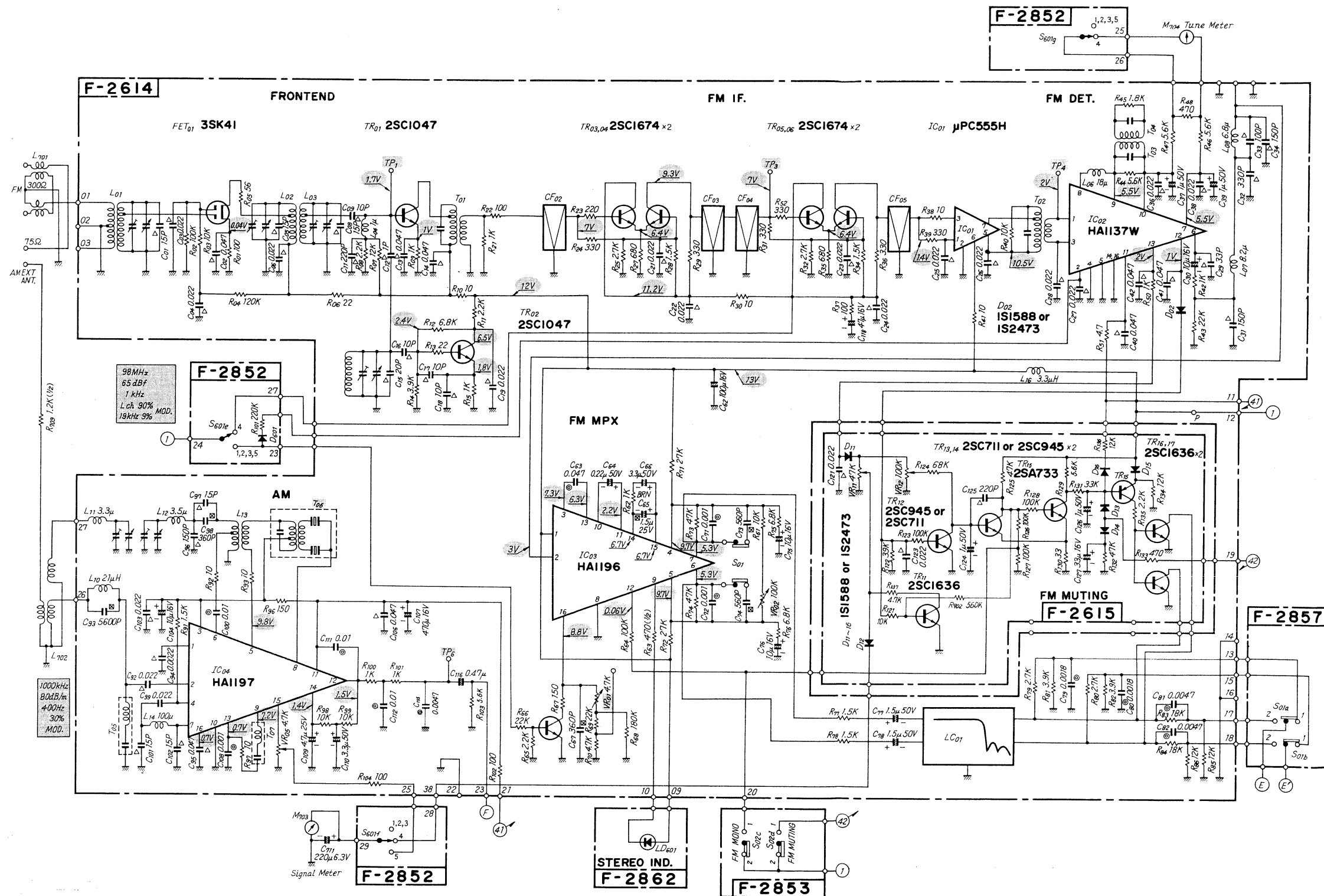
5. SCHEMATIC DIAGRAM 1. «G-6000» Audio Section

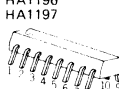


2. «G-7000/701» Audio Section



3. «G-6000/7000/701» Tuner Section

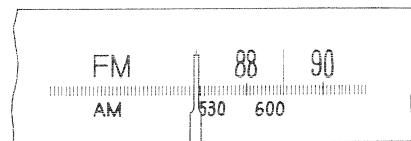


- | | | | | | |
|--|---|--------------------------------------|---|-----------------------------|---|
| 2SA733
2SA750
2SA8720
2SC945
2SC1047
2SC1400
2SC1222
2SC1674
2SC1775
2SD438 |  | 2SA939B
2SC2071R |  | 25K17 |  |
| 2SC1636 |  | μPC555H |  | HA1137W
HA1196
HA1197 |  |
| 2SA726
2SA850
2SC711
2SC1313 |  | 2SB681
2SD551 |  | 1S1568
1S2473 |  |
| 3SK41 |  | 2SK109 |  | 1N34A
1N60 |  |
| SS 3N
SS 5N |  | 2SB507
2SB536
2SD313
2SD381 |  | STV4H |  |
| SS 3R
SS 5R |  | VD1212
MV12 |  | 10D-2 |  |
| EQA01 13R
EQA01 18R
EQA01 24R |  | RD13E
RD33E |  | |  |

6. THREADING OF DIAL CORD

*If a dial cord is cut off or slips, replace it by following procedures.
As this unit uses 0.5 mm ϕ cord, please replace it with the same type certainly.
*The length of dial cord is approximately 170cm (66.9 inch),

Fig. 6-2



(Start Point)

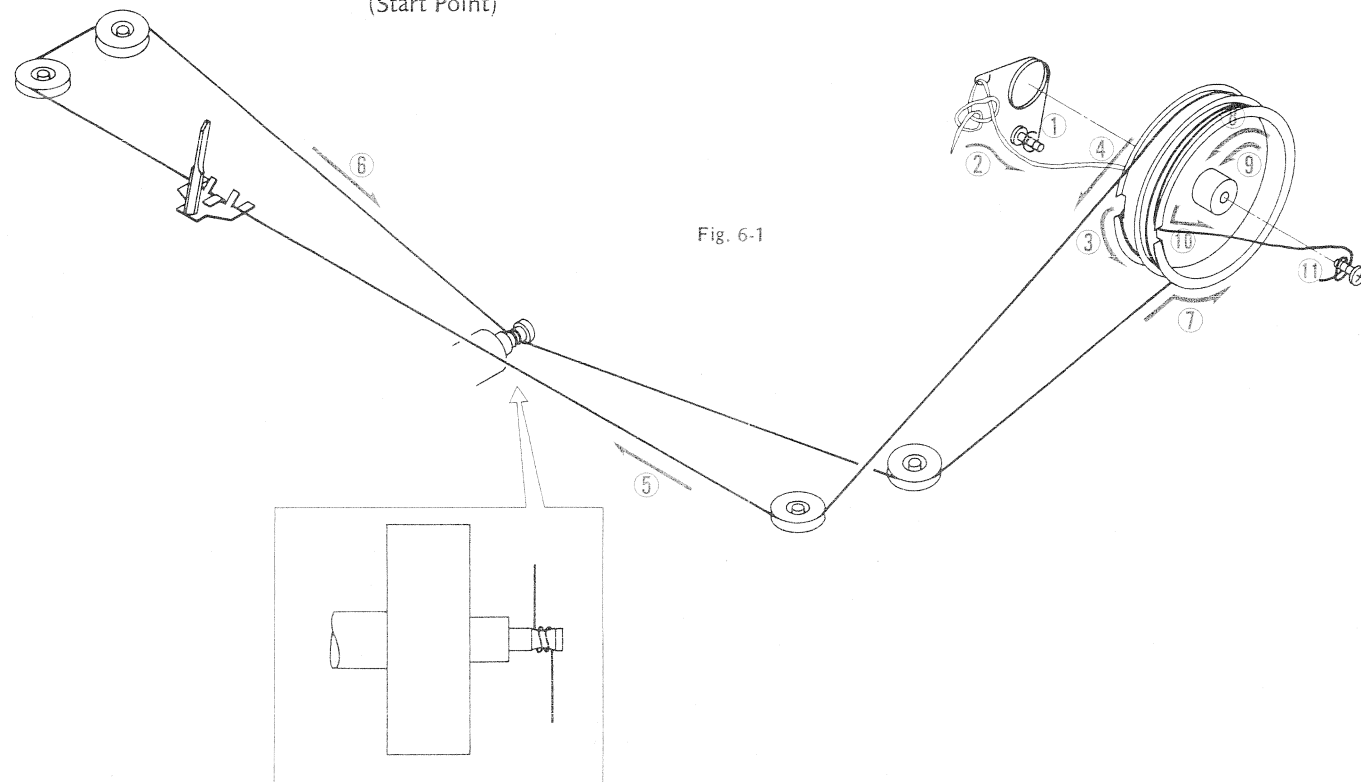


Fig. 6-1

Threading of Dial Cord

Thread the dial cord in numerical order from 1 to 11 as Fig. 1.
*Close the variable capacitor completely.

Stock No.	Description
6036050	Dial Cord (0.5 mm ϕ)
6146681	Dial pulley

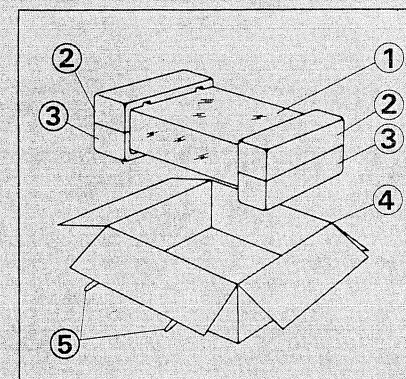
Attachment of Dial Pointer

- 1) Close the variable capacitor completely.
- 2) Set the dial pointer to the start point, the line at the left edge of the dial scale. (Fig. 6-1).

*Confirm that the dial pointer runs smoothly on the dial scale by turning the tuning shaft.

7. PACKING LIST

Parts No.	Stock No.	Description
1	9116271	Vinyl Cover «G-6000/7000/701»
2	9028140	Stylofoam Packing (Upper) «G-6000/7000/701»
3	9028150	Stylofoam Packing (Lower) «G-6000/7000/701»
4	9009990	Carton Case «G-6000»
	9009980	Carton Case «G-7000»
	9000560	Carton Case «G-701»
5	5996080	Curl Stopper «G-6000/7000/701»



8. ACCESSORY PARTS LIST

Stock No.	Description
9202920	Operating Instruction «G-6000»
9202910	Operating Instruction «G-7000»
9203730	Operating Instruction «G-701»
9237750	Schematic Diagram «G-6000»
9237740	Schematic Diagram «G-7000»
9237810	Schematic Diagram «G-701»
2410560	Short Pinplug 2 pcs. «G-6000/7000/701»
3820100	FM Antenna «G-6000/7000/701»

MEMO



SANSUI ELECTRONICS CORPORATION: 55-11 Queens Blvd. Woodside, N.Y. 11377 U.S.A.
333 West Alondra Blvd. Gardena, California 90247 U.S.A.
3036 Koapaka St. Honolulu, Hawaii 96819 U.S.A.

SANSUI AUDIO EUROPE N.V.: North Trade Bldg (9th floor) Noorderlaan 133-Bus 1, 2030 Antwerp, Belgium
SANSUI AUDIO EUROPE S.A.: Arabella center, 6 Frankfurt AM Main, Lyoner Strasse 44-48, West Germany

SANSUI ELECTRIC COMPANY LTD.: 14-1, Izumi 2-chome, Suginamiku, Tokyo 168 Japan PHONE: (03) 323-1111/TELEX:232-2076